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Patent claims

1.   A PC arrangement for visualization, diagnosis and
expert systems for monitoring and controlling or
5 regulating high-voltage supply units (1) for
electrostatic filters, having a server PC (2), which is
linked by means of a first network (5) to the high-
voltage supply units (1) for the electrostatic filter,
and client PCs (4), which form a second network (9)
10 with the server PC (2), characterized in that a
software structure for the PC arrangements (2, 4) is
broken down into autonomous software modules (10, 12,
13, 14, 15), which in each case realize at least one
functionality and one of which is in the form of an
15 autonomous server software module (10) which realizes
the data transmission or the data exchange with the
high-voltage supply units (1), in that the server
software module (10) is implemented on the server PC
(2) connected to the high-voltage supply units (1) for
20 the electrostatic filter via the first network (5), and
in that the further software modules (12, 13, 14, 15)
can be implemented on each client PC (4) or the server
PC (2).

25 2.   The PC arrangement as claimed in claim 1, in which
the first network (5), which connects the server PC (2)
to the high-voltage supply units (1), is in the form of
a Profibus network.

30 3.   The PC arrangement as claimed in claim 1, in which
the first network (5), which connects the server PC (2)
to the high-voltage supply units (1), is in the form of
an Ethernet network using TCP/IP.

35 4.   The PC arrangement as claimed in one of claims 1
to 3, in which the second network (9), which connects
the server PC (2) to the client PCs (4), is in the form
of a standard network, for example in the form of an
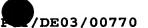
Ethernet network using TCP/IP protocol.

5.   The PC arrangement as claimed in one of claims 1 to 4, in which the server software module (10) implemented on the server PC (2) is in the form of a DCOM server or a WinSocket server.

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6.   The PC arrangement as claimed in one of claims 1 to 5, in which in each case one group of high-voltage supply units (1) has an associated bus coupler (6).

10 7.   The PC arrangement as claimed in claim 6, in which the server software module (10) is designed such that it can be used to categorize a large number of data from controllers of the high-voltage supply units (1) differently, it being possible to cyclically update
15 imaging of measured and status data from the controllers in the server software module (10), whereas other data, for example parameter data, oscilloscope data, characteristic data and the like, can be transmitted at the request of one of the client PCs
20 (4).

8.   The PC arrangement as claimed in claim 6 or 7, in which a connection between the server PC (2) which implements the server software module (10) and the
25 controllers can be started automatically when data from the controllers is requested at one or more client PCs (4).

9.   The PC arrangement as claimed in one of claims 1
30 to 8, in which the functionality "measured data archiving" is realized by an autonomous measured data software module (12).

10.   The PC arrangement as claimed in claim 9, in which
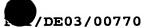35 the measured data software module (12) is in the form of a databank or data system in which measured

and status data can be archived for a predeterminable period of time.

11. The PC arrangement as claimed in one of claims 1 to 10, in which the functionalities "visualization, parameter setting, device control" are realized by an autonomous display software module (13).

12. The PC arrangement as claimed in claim 11, in which, by means of the display software module (13), it is possible to access data stored in the measured data software module (12), to access measured and status
5 data updated in the server software module (10) and, by means of the server software module (10), to directly access further data available in the controllers.

13. The PC arrangement as claimed in claim 11 or 12,
10 in which the display software module (13) can be implemented on two or more client PCs (4) and the server PC (2) simultaneously.

14. The PC arrangement as claimed in one of claims 11
15 to 13, in which the display software module (13) can be realized on different user planes, for example on an operator plane and an expert plane.

15. The PC arrangement as claimed in one of claims 1
20 to 14, in which the functionality "control of auxiliary drives" is realized by an autonomous control software module (14).

16. The PC arrangement as claimed in claim 15, in
25 which components of the electrostatic filter can be matched automatically to different operating conditions of the electrostatic filter by means of the control software module (14).

30 17. The PC arrangement as claimed in one of claims 1 to 16, in which the functionality "optimization" is realized by an autonomous optimization software module (15).

35 18. The PC arrangement as claimed in claim 17, in which, by means of the optimization software module (15), the operation of the electrostatic filter can

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be optimized using as a basis the efficiency of the electrostatic filter and/or the energy consumption of the electrostatic filter.

5   19.   The PC arrangement as claimed in claim 17 or 18, in which the server software module (10) implemented in the server PC (2) can be accessed

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by means of the measured data software module (12), the
display software module (13), the optimization software
module (15) and the control software module (14).

5 20. The PC arrangement as claimed in one of claims 1
to 19, in which the data transmission or the data
exchange via the server software module (10) may be
both cyclic and event-controlled.